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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,390	05/18/2005	Nigel Paul Schofield	M02B151	4420
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Edwards Vacuum, Inc. 2041 MISSION COLLEGE BOULEVARD SUITE 260 SANTA CLARA, CA 95054				
EXAMINER				
FAYYAZ, NASHMIYA SAQIB				
ART UNIT		PAPER NUMBER		
2856				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/535,390

Applicant(s)

SCHOFIELD ET AL.

Examiner

Nashmiya S. Fayyaz

Art Unit

2856

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4-34 and 36-39 is/are pending in the application.
- 4a) Of the above claim(s) 7-14, 18-23, 32-34 and 36-39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4-6, 15-17 and 24-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 4-6, 15, 17, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 1416168-Frankl. As to claims 1 and 4, Frankl discloses a test apparatus and method which includes testing the component (governor) of a fuel pump 12 with a control rod 13 moved by the governor by generating a predetermined test conditions (increasing the pump speed from an initial low value to a high value followed immediately by a reversal so that the pump speed decreases to its low value again) and obtaining signals indicative of a condition (recording the relative variation of the voltage as the pump speed is

varied), see page 1, lines 10 et seq. and figure. Further, it is noted that speed variation used during testing is not indicated as an "abnormal load condition" or as causing a "reduction of clearance". However, to take the pump speed by increasing from an initial low value to a high value followed immediately by a reversal to a low speed is *not* considered **normal** operation of the pump. Further, speed variation is known to cause reduction of clearance being caused by the recited increase and decrease in rotational speed of the pump 12 via rotor 14 and shaft (stator) which interconnects with coupling 11 and fuel pump 12. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have recognized that the spanning of the speeds from an upper speed to a lower speed with an immediate reversed span applied to the pump would by no means be referred to as normal operation, and therefore would have deemed the testing as subjecting the pump to an "abnormal load condition" and due to the clearly indicated increased speed to an "upper ...speed" as a reduction in clearance of the parts since these conditions are not normal and result in a reduction in clearance. As to claim 5, note converter 16 provides signals for selective control of the speed of the rotor 14 via adjustable coupling 11. As to claim 6, note that the test consists of the pump speed being increased from an initial low value to a high value inherently each for a predetermined period of time, note page 1, lines 83-87. As to claim 15, recorder 17 works to store the signals. As to claim 17, the hysteresis loop is drawn as an

analysis. As to claim 25, the recorder would inherently include a display. As to claim 26, it is indicated that the coupling automatically adjusts itself to reduce the speed if it is necessary, see page 2, lines 1-11.

4. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Frankl in view of Gopalakrishanan et al-US Patent # 6,536,271. As to claim 16, Frankl lacks a teaching for transmitting the collected signals to a storage location via a LAN or internet. In a related prior art device, Gopalakrishanan et al disclose a device for monitoring a pump where the data sensed is sent via wireless technology via LAN, see col. 5, lines 19-38. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have recognized that the Frankl device could be modernized with the wireless technology of data transmission via LAN for transmission of the collected data for further analysis.

5. Claims 24, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frankl in view of Sabini et al- US Patent # 6,648,606. As to claim 24, Frankl lacks a teaching of provision of an audible indication. In a related prior art device, Sabini et al also teach a pump performance degradation detection device where the output of the pump is monitored over a range of speeds and also suggests the usage of alarms in col. 5, lines 29-41. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have employed an audible indication of the results of the

measurement as embodied as an alarm given the teaching from Sabini et al of reducing false alarms. As to claims 27 and 28, Sabini also teaches usage of a special purpose processor for automatic determination of the pump which would be able to determine the condition of the pump and control determining at predetermined intervals which are both old and very well-known expediciencies. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated a processor for automatic control of the device so as to minimize the need for any operator control.

Response to Arguments

6. Applicant's arguments filed 5/11/09 have been fully considered but they are not persuasive. Applicant has argued that 1) Frankyl does not teach or suggest "generating an abnormal condition..." 2) the range of speed is in which the pump normally operates and 3) although the pump may change from a low speed to a high speed, the induced stress is not necessarily abnormal. Such arguments are not found persuasive because 1) Frankyl does subject the pump to an abnormal condition by subjecting the pump to a low speed to a high speed and immediately reversing the span; 2) the range is not indicated as "normal" operation in Frankyl and it is also noted that the speed is not claimed to be abnormal but rather it is claimed that an "abnormal load condition" which can be running through normal speeds but at an **abnormal rate** and 3) spanning the

speeds with an immediate reversal is not considered normal operation of the pump.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nashmiya S. Fayyaz whose telephone number is 571-272-2192. The examiner can normally be reached on Tuesdays and Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/N. S. F./

Examiner, Art Unit 2856

/Hezron Williams/

Supervisory Patent Examiner, Art Unit 2856